Assistance Agreement Quarterly Report
for the period of April 1, 2004, to June 30, 2004

July 1, 2004

Fresno, California, Particulate Matter (PM) Supersite Monitoring Program
EPA Assistance Agreement No. R-82805701-01

WORK PROGRESS AND STATUS

Activities for the second quarter of 2004 are summarized based on applicable tasks stated in the Fresno Supersite QAPP.

Task 1 – Equipment Procurement and Installation.

- The existing Kimoto SPM-613 instrument was replaced with an upgraded dichotomous model (SPM-613D) on May 31, 2004. This new instrument is able to collect PM_{10}, $PM_{2.5}$ and black carbon measurements.

Task 2 – Network Operations and Data Processing.

- Network operations and data processing have continued through this calendar quarter.
- Peter Ouchida of the California Air Resources Board (ARB) has been working with ARB's computer support group to centralize the data acquisition system with others behind the ARB firewall. Some preliminary validation will be done by ARB, which will provide DRI with access to five-minute data for additional validation and analysis. A new data logger that collects both analog and serial data has been ordered. As soon as it arrives, testing of the data collection will begin.

Task 3 – Laboratory Measurements.

- $PM_{2.5}$ mass and chemistry analyses of filter samples from FRM and chemical speciation samplers, collected every sixth day through 12/31/03, have been completed; validation of this data will be completed by 6/30/04. Chemical analyses of samples through 3/31/04 is in progress. Chemical speciation has been completed; data validation is in progress and is expected to be completed by 6/30/04.
- DRI continues to operate the speciation instrument at a one-in-three-day sampling frequency in order to obtain more comparison data.

Task 4 – Quality Assurance.

- DRI continues to finalize standard operating procedures for the data analysis methods of the field measurements.

Task 5 – Data Validation and Data Analysis.

- Level 1a and 1b data validation is in process for continuous gas, particle mass and chemistry, light scattering, light absorption, particle size, and meteorological measurements through 12/31/03. A large amount of the continuous data, collected through 01/31/04, has been submitted to ARB's CCAQS FTP site. Validation of the remaining data through 1/31/04, as well as data through 3/31/04, is in progress. This data will be submitted over the next several months. DRI continues to work with and submit data to NARSTO and SIRD.

Task 6 – Management and Reporting.

- No site visit occurred during this quarter. Drs. John Watson and Judith Chow are planning to visit the Fresno Supersite before the end of the third quarter.

EXPENDITURES

Budget expenditures are on target, and no revisions to the approved budget are expected at this time.

QUALITY ASSURANCE

Standard operating procedures continue to be updated for the data analysis procedures.

RESULTS

There are no results to report for this period.

PLANNED ACTIVITIES FOR THE REMAINDER OF THE SECOND QUARTER

During the third quarter of 2004, the principal investigators plan to: 1) continue data analysis from the 2003 Winter Carbon Intercomparison Study; 2) continue finalizing procedures for the data handling protocols for the Fresno Asthmatic Children's Environment Study (the concurrent health study conducted by the University of California, Berkeley, and ARB); 3) continue finalizing data validation criteria and database structure; and 4) continue to work with ARB to install the new Data Acquisition System.

PUBLICATIONS, PRESENTATIONS, AND REPORTS

One publication was accepted during this quarter:

Chow, J.C., J.G. Watson, L.W.A. Chen, W.P. Arnott, H. Moosmüller, and K. Fung (2004). Equivalence of Elemental Carbon by Thermal/Optical Reflectance and Transmittance with Different Temperature Protocols. *Environ. Sci. Technol.*, accepted.

One publication was submitted during this quarter:

Watson, J.G., J.C. Chow, D.H. Lowenthal, N.M. Kreisberg, S.V. Hering, and M.R. Stolzenburg (2004). Variations of Nanoparticle Concentrations at the Fresno Supersite. *Aerosol Sci. Tech.*, submitted.

The following presentation was given during this quarter:

Chow, J.C. and J.G. Watson (2004). Challenges in Ambient PM Measurement and Assessment. Presented at the 2004 International Conference on High-tech Industry Air Pollution Control Technologies Seminar, Taoyuan, Taiwan, 27 May 2004.

No reports were prepared during this quarter.